CHE 431: Biochemistry Laboratory

Instructor: Dr. Alycen Nigro
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Office Hours: TWThF 11:00 am to Noon; F 2:00 pm to 3:00pm

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Pre-requisites: CHE 205, 206, 211, 421 and 422 (can be co-requisite) with permission from the department chair.

Lab: TTh: Noon to 3:00 pm SB 303

Texts: 

Laboratory Notebook

Objectives:
- To provide an opportunity for students to acquire experience with some of the most important analytical techniques used in a biochemical lab.
- To familiarize students with the procedures for handling biochemical material in the laboratory.
- To provide additional experience in using computer-interfaced instrumentation and data analysis programs.
- To provide additional experience in maintaining a written laboratory notebook and preparing formal written laboratory reports.

Laboratory: This lab is a 3-hour period on TTh from Noon to 3:00pm. You are required to complete the lab during the allotted time. You will have assigned Pre-lab exercises (more details on this in lab) that will be reviewed by your instructor prior to beginning the experiments. Lab write-ups in your notebooks will be due on the dates assigned by the instructor.

As often as possible, students will work individually on the experiments. When students work in groups of 2 or 3, each student is expected to be fully prepared for each laboratory. Each member of the group must operate instruments and analyze data using the data analysis and presentation programs.
Although the labs are scheduled into 2 three hour blocks per week, the more complex experiments may require the student to come in at additional times to run gels, stain destain samples, etc. Students will be expected to see their work through to completion.

**Attendance Policy:** Attendance at all lab sessions is required. Please be on time. Due to the complexity of the experiments, the cost of the reagents and the time involved in preparing the materials, make-up work will be extremely difficult. Unless a valid medical excuse is presented or unless previous arrangements have been made with the instructor, a penalty of 50 points will be assessed for each missed lab session. If a problem does arise, please consult the instructor as soon as possible.

**Rules:** Bring to lab: Approved safety glasses or goggles, a Laboratory Notebook (available at the WCSU Bookstore), any hand-out materials and a scientific calculator.

Cell Phone/pagers: If you have a cell phone or pager, you MUST TURN IT OFF while in lab. There is no phone call so important that these should be turned on during lab.

**Lab Notebooks:** BRING THE NOTEBOOK WITH YOU TO ALL LAB SESSIONS. All data taken in the lab MUST be entered into the approved lab notebook in blue or black ink. Data should not be taken on scraps of paper or on a regular notepad. All graphs, charts, etc. generated and printed from a computer must be placed securely into the notebook. Also, any photographic material, such as photos of gels, must be placed securely into the notebook. Each new experiment will be started on a fresh, right-hand page of your notebook. Write the date and title of the experiment at the top of the page. Number the pages consecutively. Draw a single line through the material that you wish to strike out. Make sure that your writing is clear and easy to read. Your notebooks will be graded. If I cannot read your writing, you will not get credit for the work.

Write-up of each experiment will be completed in your notebook by following the format given the LAB FORMAT handout. THE DATES FOR SUBMISSION OF THE NOTEBOOKS will be given with each new experiment.

**Pre-Lab Exercises:** Pre-lab exercises must be submitted on separate sheets of paper at the start of the appropriate lab session. LATE PRE-LAB ASSIGNMENTS WILL NOT BE ACCEPTED. Once returned, these exercises should be placed in your lab notebooks with the appropriate experiment.
Grading: The breakdown of the grading will be as follows:

- 16 lab write-ups at 30 points each = 480 points
- 13 Pre-lab exercises @ 10 points each = 130 points
- Buffer Preparation Exercise = 30 points
- Bioinformatics Exercise = 30 points
- Activity Assay Problem = 15 points
- **Total** = 685 points

Grades will be awarded as follows:

- **A** 93 – 100
- **B-** 80 – 82
- **D+** 68 – 69
- **A-** 90 – 92
- **C+** 78 – 79
- **D** 63 – 67
- **B+** 88 – 89
- **C** 73 – 77
- **D-** 60 – 62
- **B** 83 – 87
- **C-** 70 – 72
- **F** < 60

- Late submission of laboratory notebooks will incur a penalty of **5 points per day**.
- Late pre-labs **will not be accepted**.

Suggestions for Success in CHE 431:

- Rewrite your notes from any lecture material within 24 hours of the lectures. At the very least, review your notes prior to the next lab session to identify areas that are unclear. If you cannot find the answers on your own in the text, ask questions!
- Read the laboratory protocols **prior** to attending the lab session. Know what particular techniques you will be using in the lab and come prepared with any questions you may have regarding those procedures.
- Come to my office hours on a regular basis. That is why I have them.
- Review your lab reports; don’t repeat your mistakes.